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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/789,000

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Thomas M. Mayers

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EXAMINER

VAN SELL, NATHAN L

ART UNIT

PAPER NUMBER

1783

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/789,000	<b>Applicant(s)</b> MAYERS ET AL.	
	<b>Examiner</b> NATHAN VAN SELL	<b>Art Unit</b> 1783	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 March 2011 and 01 December 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 15-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 15-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 1, 2011 has been entered.

Amendments to the claims, filed on December 1, 2010 have been entered in the above- identified application.

### ***Claim Objections***

Claim 17 is objected to because of the following informalities: It is not listed in latest set of claims filed on December 1, 2010, but it is not listed as canceled or otherwise withdrawn. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

**The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.**

Claims 1-9 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kahara et al. (U.S. Patent No. 5,753,871) in view of Baig (U.S. Patent Application Publication No. 2002/0139611) and Forry et al. (U.S. Patent No. 4,585,685).

Regarding Applicant's claim 1, Kahara discloses a cast acoustical ceiling tile (*title*) having a core made from a starch gel and mineral wool fiber composition with the

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starch gel ranging from 75 to 83 weight percent of the core composition and the mineral wool fibers ranging from 17 to 25 weight percent of the core composition (*col. 2, lines 33-39*). The starch gel comprises at least about 82.7 weight % water, so it is a wet composition (*col. 2, lines 21-29*).

Kahara fails to disclose wherein the front surface of the tile is coated with aggregate particles with a mean diameter of at least 1,000 microns.

Baig '611 discloses an acoustical ceiling tile (*title*) having a core (*fiber rich surface layer made of mineral wool fibers, paragraph 0021*) made from a starch gel (*starch binder of starch in the form of a gel, paragraph 0027*) and mineral wool fiber (*fiber rich surface layer made of mineral wool fibers, paragraph 0021*) composition, wherein the front surface of the tile is coated with aggregate particles (*calcium carbonate particle coating, paragraph 0061*). The benefit of the acoustical ceiling tile in Baig '611 is improved sound absorption (*abstract*).

Baig '611 fails to specifically disclose the aggregate particles with a mean diameter of at least 1,000 microns are pressed into the front surface.

Forry discloses an acoustically porous building material (*title*) wherein the front surface of the tile is coated with aggregate particles (*col. 3, lines 11-21 and figure 1*). The aggregate particles are pressed into the front surface, which creates a relatively non-friable surface (*col. 3, lines 2-3 and figure 3*). Forry discloses using a particle with the largest size of 6 U.S. mesh (i.e., 3360 microns) (*col. 8, lines 25-30*).

It would have been obvious to one of ordinary skill in the art at the time of the invention to add a layer of aggregate particles as taught by Baig '611 to Kahara in order

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to improve sound absorption. Furthermore, it would have been obvious to one of ordinary skill in the art to press, embed, the aggregate particles in the front surface as taught by Forry in the combination of Baig '611 and Kahara in order to make the surface relatively non-friable.

The limitation "abuse-resistant" is a functional limitation and is deemed to be a latent property of the prior art since the prior art is substantially identical in composition and/or structure. MPEP 2145 (II).

The limitation "pressed into said surface prior to drying of the composition" is a method limitation and does not determine the patentability of the product, unless the process results in a product that is structurally distinct from the prior art. The method of forming the product is not germane to the issue of patentability of the product itself, unless Applicant presents evidence from which the Examiner could reasonably conclude that the claimed product differs in kind from those of the prior art. MPEP 2113. Furthermore, there does not appear to be a difference between the prior art structure and the structure resulting from the claimed method because the combination of Kahara, Baig '611 and Forry discloses the same composition and structure for the claimed tile.

Regarding Applicant's claims 2 and 3, Baig '611 discloses that the aggregate particles are selected from the group consisting of calcium carbonate, crushed marble, sand, clay, perlite, vermiculite, crushed stone and glass (*page 6, paragraph [0061]*). Furthermore, the aggregate particles are specifically calcium carbonate (*calcium carbonate particle coating, page 6, paragraph [0061]*).

Regarding Applicant's claims 4 and 5, Forry discloses using a particle with the largest size of 6 U.S. mesh (i.e., 3360 microns) (*col. 8, lines 25-30*). In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a *prima facie* case of obviousness exists. MPEP 2144.05 (I). Where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. MPEP 2144.05 (II).

Regarding Applicant's claims 6-9, Baig '611 discloses that dual layer ceiling tile with calcium carbonate coating has a noise reduction coefficient (NRC) value of at least about 0.50 (*page 6, paragraph [0062]*).

Regarding Applicant's claims 15-17, the limitations "wherein the tile is made from wet pulp," "wherein the aggregate is pressed using a roller," and "wherein the aggregate is pressed using a plate" are method limitations and do not determine the patentability of the product, unless the process results in a product that is structurally distinct from the prior art. The method of forming the product is not germane to the issue of patentability of the product itself, unless Applicant presents evidence from which the Examiner could reasonably conclude that the claimed product differs in kind from those of the prior art. MPEP 2113.

Claims 1-9 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cottis (U.S. Patent No. 3,184,372) in view of Baig (U.S. Patent Application Publication No. 2002/0139611) and Forry et al. (U.S. Patent No. 4,585,685).

Regarding Applicant's claim 1, Cottis discloses an acoustical ceiling tile (*col. 1, lines 13-15*) having a core made from a starch gel and mineral wool fiber composition

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with the starch gel ranging from 75 to 83 weight percent (*approximately 79 weight percent*) of the core composition and the mineral wool fibers ranging from 17 to 25 weight percent (*approximately 17 weight percent*) of the core composition (*col. 3, lines 61-53*). The starch gel comprises at least about 82.7 weight % water (i.e., a wet composition) (*approximately 94 weight percent, col. 3, lines 44-50*).

Cotts fails to disclose wherein the front surface of the tile is coated with aggregate particles with a mean diameter of at least 1,000 microns..

Baig '611 discloses an acoustical ceiling tile (*title*) having a core (*fiber rich surface layer made of mineral wool fibers, paragraph 0021*) made from a starch gel (*starch binder of starch in the form of a gel, paragraph 0027*) and mineral wool fiber (*fiber rich surface layer made of mineral wool fibers, paragraph 0021*) composition, wherein the front surface of the tile is coated with aggregate particles (*calcium carbonate particle coating, paragraph 0061*). The benefit of the acoustical ceiling tile in Baig '611 is improved sound absorption (*abstract*).

Baig '611 fails to specifically disclose the aggregate particles with a mean diameter of at least 1,000 microns are pressed into the front surface.

Forry discloses an acoustically porous building material (*title*) wherein the front surface of the tile is coated with aggregate particles (*col. 3, lines 11-21 and figure 1*). The aggregate particles are pressed into the front surface, which creates a relatively non-friable surface (*col. 3, lines 2-3 and figure 3*). Forry discloses using a particle with the largest size of 6 U.S. mesh (i.e., 3360 microns) (*col. 8, lines 25-30*).

It would have been obvious to one of ordinary skill in the art at the time of the invention to add a layer of aggregate particles as taught by Baig '611 to Cotts in order to improve sound absorption. Furthermore, it would have been obvious to one of ordinary skill in the art to press, embed, the aggregate particles in the front surface as taught by Forry in the combination of Baig '611 and Cotts in order to make the surface relatively non-friable.

The limitation "abuse-resistant" is a functional limitation and is deemed to be a latent property of the prior art since the prior art is substantially identical in composition and/or structure. MPEP 2145 (II).

The limitations "cast" and "pressed into said surface prior to drying of the composition" are method limitations and do not determine the patentability of the product, unless the process results in a product that is structurally distinct from the prior art. The method of forming the product is not germane to the issue of patentability of the product itself, unless Applicant presents evidence from which the Examiner could reasonably conclude that the claimed product differs in kind from those of the prior art. MPEP 2113. Furthermore, there does not appear to be a difference between the prior art structure and the structure resulting from the claimed method because the combination of Cotts, Baig '611 and Forry discloses the same composition and structure for the claimed tile.

Regarding Applicant's claims 2 and 3, Baig '611 discloses that the aggregate particles are selected from the group consisting of calcium carbonate, crushed marble, sand, clay, perlite, vermiculite, crushed stone and glass (*page 6, paragraph [0061]*).



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Furthermore, the aggregate particles are specifically calcium carbonate (*calcium carbonate particle coating, page 6, paragraph [0061]*).

Regarding Applicant's claims 4 and 5, Forry discloses using a particle with the largest size of 6 U.S. mesh (i.e., 3360 microns) (*col. 8, lines 25-30*) . In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a *prima facie* case of obviousness exists. MPEP 2144.05 (I). Where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. MPEP 2144.05 (II).

Regarding Applicant's claims 6-9, Baig '611 discloses that dual layer ceiling tile with calcium carbonate coating has a noise reduction coefficient (NRC) value of at least about 0.50 (*page 6, paragraph [0062]*).

Regarding Applicant's claims 15-17, the limitations "wherein the tile is made from wet pulp," "wherein the aggregate is pressed using a roller," and "wherein the aggregate is pressed using a plate" are method limitations and do not determine the patentability of the product, unless the process results in a product that is structurally distinct from the prior art. The method of forming the product is not germane to the issue of patentability of the product itself, unless Applicant presents evidence from which the Examiner could reasonably conclude that the claimed product differs in kind from those of the prior art. MPEP 2113.

***Response to Arguments***

Applicant's arguments in the response filed December 1, 2010 regarding the 35 U.S.C. 103(a) rejection over Kahara or Cotts in view of Baig and Forry of record have been carefully considered but are not deemed unpersuasive.

The applicant argues the prior art fails to disclose pressing of aggregate particles onto a front surface of an acoustical tile to make the same structure as taught by Applicant. None of the prior art suggests utilizing a coarse particle having an average particle diameter of at least 1,000 microns. There is no motivation to press the aggregate of Forry into the wet- laid tile of Baig or Kahara since Forry teaches that doing so does not produce an acoustical tile (*page 9 last paragraph continued to page 10*).

Regarding applicant's arguments that prior art fails to disclose pressing of aggregate particles onto a front surface of an acoustical tile to make the same structure as taught by Applicant and there is no motivation to press the aggregate of Forry into the wet- laid tile of Baig or Kahara since Forry teaches that doing so does not produce an acoustical tile (*page 9 last paragraph continued to page 10*).

The applicant relies on the following passages (*page 6, 3<sup>rd</sup> paragraph and page 8, 1<sup>st</sup> paragraph*), Col. 1, lines 19-24 from Forry:

materials. The resulting products, however, have suffered from a variety of drawbacks. Specifically, because they are wet-laid, the fibers are closely packed so that sound cannot readily penetrate the board; thus, a wet-laid board must be perforated or fissured in order to obtain acceptable acoustical performance. In addition,

And Column 5, lines 17-28:

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Aggregate facing materials have not been successfully used to produce acoustical materials because the facing materials cannot be adequately adhered to the board when it is in the wet state. This may occur because the consolidation which causes the aggregate to adhere to the wet board results in a densification of the board so that it is no longer acoustical, and/or because the faced boards cannot be fissured to render them acoustically porous without substantially interfering with the appearance of the board. When aggregate is

As stated above in *Forry*, these passages do not preclude the use of a wet composition method to add aggregate to the top surface of the ceiling tile, it merely states that in using a wet process, the additional steps of perforating or fissuring the tile must be added, and it would hinder the appearance of the tile. However, nothing in the instant claims speaks to perforations, fissures, porosity of the structure, or tile appearance so nothing precludes the use of these additional steps.

The applicant states *Forry* teaches using an additional binder (*page 7, 2nd paragraph*). However, nothing in the instant claims precludes the use of an additional binder, so this point is moot.

Finally, since *Kahara* and *Cotts* disclose the composition of claim 1 (*see above U.S.C. 103 rejections*), it is deemed both have the final core structure of claim 1. Furthermore, both *Kahara* states the panel is acoustic (title), as does *Cotts* (*column 1, lines 10-15*), so both possess acoustic properties. Per the above stated U.S.C. § 103 rejections, the motivation of the combination of reference is both to enhance acoustic properties and to create a non-friable layer.

Regarding applicant's arguments that none of the prior art suggests utilizing a coarse particle having an average particle diameter of at least 1,000 microns. *Forry*

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discloses using a particle with the largest size of 6 U.S. mesh (i.e., 3360 microns) (*col. 8, lines 25-30*). In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a *prima facie* case of obviousness exists. MPEP 2144.05 (I).

Therefore, the combination of Kahara or Cotts in view off Baig and Forry is still deemed to obviate the claims.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NATHAN VAN SELL whose telephone number is (571)270-5152. The examiner can normally be reached on Monday through Friday, 9am til 6:30pm, EST, alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Sample can be reached on (571)272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David R. Sample/  
Supervisory Patent Examiner, Art Unit 1783

/N. V./  
Examiner, Art Unit 1783